

What is claimed is:

1. Spinel ferrimagnetic particles, a composition formula of which when prepared is  $(\text{CoO})_{0.5-x}(\text{NiO})_{0.5-y}(\text{MO})_{x+y} \cdot n/2(\text{Fe}_2\text{O}_3)$  (M is a bivalent metal except Co and Ni), where,

a value of n (molar ratio)  $=\text{Fe}/(\text{Co} + \text{Ni} + \text{Zn})$  is  $2.0 < n < 3.0$ , which is larger than stoichiometric amount ( $n = 2$ ) of a spinel ferrite and less than that of 1.5 times, and,

values of said x, y satisfy  $0 \leq x < 0.5$ ,  $0 \leq y < 0.5$ ,  $0 < x+y < 0.5$ , wherein,

also, superparamagnetic fine particles contained in said spinel ferrimagnetic particles is 5 % by mass or less.

2. The spinel ferrimagnetic particles according to claim 1, wherein said M is a metal selected from either Zn or Mn.

3. The spinel ferrimagnetic particles according to claim 1 or claim 2, wherein:

the value of said n is  $2.2 < n < 2.8$ ;

the values of said x, y satisfy  $0 \leq x < 0.2$ ,  $0 \leq y < 0.2$ ,  $0.01 < x+y < 0.2$ ; and

superparamagnetic fine particles contained in said spinel ferrimagnetic particles is 2 % by mass or less.

4. The spinel ferrimagnetic particles according to claims 1 to 3, wherein coercivity is 239 - 637 [kA/m] and saturation magnetization is  $50.3 \times 10^{-6} - 88.0 \times 10^{-6}$  [Wb · m/kg].

5. The spinel ferrimagnetic particles according to claims 1-4, prepared through a forming process comprising the steps of:

preparing mixed solutions by mixing each solution

5 containing iron, cobalt, nickel and said M as water soluble metallic salt, respectively, by satisfying said conditions of x, y, n ;

preparing solutions containing coprecipitation substance by adding an alkaline aqueous solution to said mixed  
10 solutions and adjusting pH value to be  $12.0 \leq \text{pH} \leq 14.0$ ; and  
producing fine particles by heat-treating said solutions containing coprecipitation substance at  $80\text{ }^{\circ}\text{C}$ - $120\text{ }^{\circ}\text{C}$ , and then performing filtration, washing and drying.

6. The spinel ferrimagnetic particles according to claim 5, wherein said step of preparing said solutions containing coprecipitation substance is a step of preparing solutions containing coprecipitation substance by adjusting pH values  
5 to  $13.0 < \text{pH} < 13.7$ .

7. A magnetic recording medium containing said spinel ferrimagnetic particles according to claims 1 - 6.